MARINE, COASTAL, AND ESTUARINE RESTORATION PROJECTS BY FEDERAL AGENCIES

Natural resource, damage assessment and restoration (NRDAR) work is conducted in federally managed areas and for federally managed resources (e.g., species such as fish or birds that are not confined to a particular area) throughout the United States and its territories. This map illustrates locations of restoration projects implemented by various National Oceanic and Atmospheric Administration (NOAA)¹ and Department of the Interior (DOI)² agencies. Additional project information is also provided.³ These projects are implemented under each agency's NRDAR program and typically address injuries from oil spills, hazardous substance releases, and vessel groundings. migratory birds, T&E species will be used to raise dikes to control flooding #12 - Levee breached to restore from the intentional breach of an adjacent Flag Island - a nesting area for eiders and other migratory birds - in Casco Bay, Maine 19 | Presidente Rivera Oil Spill | Delaware River shoreline DE/NJ/PA Biscayne National Park, FL PSRPA Biscayne National Park (seagrass) 2000 20 Acosta / Lady Jean Grounding Biscayne National Park, FL PSRPA none Biscayne National Park (coral reef) 2001 21 | Allie B Grounding Biscayne National Park (seagrass) 2000 22 Arnold Stiltsville Grounding Biscayne National Park, FL PSRPA #62 - Temporary pond at borrow pit. Dry Tortugas National Park 23 Banos Poaching Dry Tortugas National Everglades National Park. PSRPA 24 Blonder Grounding none Everglades National Park 2002 #12 - Transplanted/restored shoreline vegetation in foreground, breach site in background. 25 Cury / St. Tropez Biscayne National Park (seagrass) 2000 Biscayne National Park, FL PSRPA Grounding 26 Debbet Grounding Biscayne National Park, FL PSRPA Biscayne National Park (reef) #6 - Decoy seabirds (murres), mirrors, and 27 Elortequi / Almanac Biscayne National Park, FL PSRPA Biscayne National Park (seagrass) a solar-powered murre-call sound system Grounding were deployed to attract these birds back fisheries, migratory birds, T&E offshore Broward County, 2003 28 Florida Mystery Spill to Devil's Slide Rock, once nearly covered species, recreational use with 3,000 breeding murres. Everglades National Park, PSRPA 29 Fulkreth / Lady B 1994? Everglades National Park Grounding 30 Fulton / SeaHunt Everglades National Park, PSRPA Everglades National Park #62 - Wetland habitat created as pond area fills in with Grounding cattails and other vegetation. #78 - Restoring a bay scallop fishery at Biscayne National Park (seagrass) 2004 31 Gateway Marine / Big Roy Biscayne National Park, FL PSRPA Pt. Judith Salt Pond. 32 Hollander / Pillow Talk Biscayne National Park, FL PSRPA Biscayne National Park (seagrass) 2004 Grounding 33 Igloo Moon Grounding Biscayne National Park, FL PSRPA Biscayne National Park (coral reef) 2000 34 Liebowitz / Free Wiley II Everglades National Park, PSRPA 2003 Everglades National Park Los Angeles Grounding 35 Padron / Zarife Grounding Biscayne National Park, FL PSRPA none Biscayne National Park (seagrass) Volunteers restoring tidal shoreline 36 Perdido Key Coal Spill off of Perdido Key, Gulf Gulf Islands National Seashore habitat by transplanting Spartina Islands National Seashore a common restoration activity along the U.S. Atlantic and Gulf #6 - Live nesting pairs of murres are re-37 Porter / C'est la vie Biscayne National Park, FL PSRPA Biscayne National Park (seagrass) 2000 coasts (file photo). establishing on Devil's Slide Rock at double the rate hoped for by project 38 Pure Pleasure Grounding Biscayne National Park, FL PSRPA none Biscayne National Park (seagrass) 2000 managers, with 190 pairs after nine years. 39 Schultze / Horse Biscayne National Park, FL PSRPA Biscayne National Park (seagrass) 2000 Grounding 40 | She's a Lady Grounding | Biscayne National Park, FL | PSRPA none Biscayne National Park (seagrass) 2000 Biscayne National Park (seagrass) 2000 41 Sobel / Lady P Grounding Biscavne National Park, FL PSRPA 42 Stivers / Great White 2003 Everglades National Park, PSRPA Everglades National Park Photo Credit: Texas NRDAR Trustee Cou Grounding fisheries, migratory birds, T&E 43 Tampa Bay Oil Spill Tampa Bay, FL #95 - New vegetation plugs in terraces. species, recreational use Photo Credit: Texas NRDAR Trustee Cou 44 *Tom's Tug* Grounding Biscayne National Park, FL PSRPA Biscayne National Park (seagrass) 2000 #95 - Restoring estuarine wetlands at Bessie 45 Tuttle / Stiltsville Biscayne National Park, FL PSRPA Biscayne National Park (seagrass) Heights Marsh - terrace construction. Grounding #35 - Aerial photo of seagrass habitat highly fisheries, migratory birds, impacted by propeller scars at Biscayne 46 Tesoro Hawaii Oil Spill offshore Barber's Point. near Honolulu, HI recreational use National Park. #7 - A Habitat Stewardship Program was 47 Waiau / Chevron Pipeline Pearl Harbor, HI OPA, PSRPA fisheries, recreational use, USS funded to monitor and maintain an unrelated Arizona Memorial restoration site, (Crissy Field Marsh, 48 Grand Calumet River / Grand Calumet River and CERCLA fisheries, migratory birds, Indiana San Francisco Bay). Volunteers are shown Indiana Harbor Indiana Harbor, near Gary, Dunes National Lakeshore re-planting certain areas at this site. 49 Clooney Island EDC Spill Lake Charles (Calcasieu CERCLA State fisheries, migratory birds 50 Dixon Bay Oil Spill Dixon Bav. LA fisheries, migratory birds 51 Dynergy Pipeline Rupture Cameron Parish. LA CERCLA 52 | Formosa Six Spill 53 Four Bayou Pass Oil Spill Barataria Bay, LA 2004 fisheries, migratory birds 1993 54 Greenhill Oil Well Blowout Timbalier Bay, LA fisheries, migratory birds 55 Lake Barre Oil Spill Lake Barre, Timbalier Bav. fisheries, migratory birds #7 - Water quality monitoring at Crissy Field Marsh. #38 - Restoring propeller scars in seagrass. Sediment-filled burlap bags are first taken 56 Westchester Oil Spill 2003 Mississippi River, fisheries, migratory birds, downstream of New recreational use Orleans, LA #93 - Preservation of barrier island land -2000 57 Julie N Oil Spill Fore River, Portland, ME fisheries, migratory birds #21 - Assessing damage to a coral reef head. important nesting habitat for migratory birds 2002 58 Chalk Point Oil Spill fisheries, migratory birds on Mustang Island. 59 Charles-George Landfill Tyngsborough, MA CERCLA fisheries, migratory birds 1992 fisheries, migratory birds, T&E 60 New Bedford Harbor #84 - Restoration of Pierce Marsh. 61 | Posavina Oil Spill fisheries, migratory birds 2004 Boston, MA Saginaw River & Bay, MI 1999 62 Saginaw Bay fisheries, migratory birds, T&E 63 Coakley Landfill Greenland and North #7 - Quarterly sampling to monitor the recovery of aquatic life at Crissy Field Marsh. 64 Cynthia M Spill CERCLA Hackensack River, South Kearny, NJ 65 | Jahre Spray Spill Delaware River, N. State(s?) fisheries 2001 1996 CERCLA-driven° 66 Kentucky Mobil Terminal Paulsboro, NJ State(s?) Transplanted seagrass plugs in a damaged area 1997 67 Lone Pine Landfill Freehold Township, NJ CERCLA State migratory birds (file photo). 1994 68 | Santa Clara Spill offshore Cape May, NJ OPA-driven° 1994 69 B.T. Nautilus Oil Spill States, Other | fisheries, migratory birds, T&E Kill van Kull Waterway Puerto Rico PSRPA-driven^o 70 Cibro Savannah Oil Spill Arthur Kill Waterway, fisheries, recreational use 1999 U.S Virgin Islands Co-authored by: Steve Glomb - Department of the Interior, Washington, D.C. 71 Exxon Bayway Oil Spill Arthur Kill Waterway, States, Other | fisheries, migratory birds, pre-OPA⁹ between NY and NJ Photo Credit: Texas NRDAR Trustee Coun Dolores A. Savignano - U.S. Fish and Wildlife Service, Arlington, VA 72 AES/Shore Realty CERCLA State 1992 Glenwood Landing, Long fisheries, migratory birds #84 - Wetland restoration at San Jacinto State Park. Jeff Shenot - NOAA - National Marine Fisheries Service, Silver Spring, MD Island Sound, NY 2004 73 Liberty Industrial Farmingdale, NY Mark VanMouwerik - National Park Service, Fort Collins, CO Caribbean Sea 74 Fields Brook Ashtabula, OH Cartographic Production by: 75 New Carissa Oil Spill Coos Bay, OR State, Tribes | migratory birds, recreational use OPA, PSRPA Other (territory) migratory birds, recreational use, Morris J. Berman Oil Spill Point Escambron, near Danelle Malget - National Park Service, Colorado State University Miles San Juan National Historic Site San Juan, Puerto Rico 0 100 200 Fort Collins, CO (coral reef) 77 Fortuna Reefer Grounding Mona Island, Puerto Ricc 78 North Cape Oil Spill fisheries, migratory birds, T&E Moonstone Beach, RI ¹ More specifically, the National Marine Fisheries Service and the National Ocean Service. species, Trustom Pond NWR migratory birds, recreational use 1995, 1997 79 Peterson-Puritan Cumberland and Lincoln, ² Includes DOI's five land management agencies -- Bureau of Indian Affairs, Bureau of Land Management (BLM), Bureau of Reclamation (BR), National Park Service, and U.S. Fish and Wildlife Service. Most projects on tribal South Kingstown, RI 80 Rose Hill Landfill 2003 lands are not depicted on this map because they are under Tribal, not Federal (DOI or NOAA) jurisdiction. fisheries, migratory birds, T&E 81 World Prodigy Oil Spill Narragansett Bav. species, Trustom Pond NWR ³ Information on this poster is not necessarily complete or free of mistakes and should not be used for legal purposes. 82 Star Evviva Oil Spill Charleston County, SC 2003 migratory birds, Anahuac NWR 83 AMOCO-High Island Oil off of Chambers County, ⁴ This is a commonly used name. Names may vary among the agencies or parties involved. Hawaiian Islands 84 Apex Galveston Oil Spill Galveston Bay, TX OPA State fisheries, migratory birds 1994 2000 85 Bailey Waste Bridge City, TX State fisheries, migratory birds ⁵ Location is where the original incident occurred. Restoration projects are not always at the exact same location as 1994 86 Chiltipin Creek Oil Spill San Patricio County, TX fisheries, migratory birds the incident, but typically are in the same general area. Note, however, that some innovative 87 San Jacinto River Pipeline Galveston Bay and area, fisheries, migratory birds Fairbanks • restoration projects are being implemented inland. For example, trustees at two coastal oil spill sites have #1 - The Exxon Valdez oil spill settlement has determined that the preferred restoration options for injured migratory birds at those sites is the restoration and/or funded dozens of research, monitoring, habitat Crosby, TX 88 French Limited fisheries, migratory birds #47 - Original shoreline rip-rap in front of protection of nesting habitat at distant inland locations. Also note that there are inland incident sites where injury protection, and restoration projects. CERCLA 89 Mobil Mining Pasadena, TX USS Arizona Memorial visitor center. State fisheries, migratory birds to migrating marine, coastal, or estuarine resources such as anadromous fish and migratory birds have occurred. 1984 90 Motco LaMarque, TX CERCLA fisheries, migratory birds Neither the inland restoration project sites nor the inland incident sites are depicted on this poster. 91 Phillips Petroleum Oil Spill Sweenv. TX 2001 fisheries, migratory birds State 1997 92 Sheridan Disposal Site Hampstead, TX CERCLA fisheries, migratory birds ⁶ The three main statutes under which federal NRDAR work is done are the Oil Pollution Act (OPA), the 1999 93 Skaubay/Berge Banker Oil from Matagorda to Kenedy OPA, PSRPA fisheries, migratory birds, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Park System County, TX recreational use, Padre Island National Seashore, Matagorda Resource Protection Act (PSRPA). Island NWR 94 Tex-Tin 2000 Texas City, TX fisheries, migratory birds ⁷ For simplicity, resources were categorized as fisheries, migratory birds, threatened and endangered (T&E) Neches River, Jefferson & 95 Unocal Pipeline fisheries, migratory birds species, and marine mammals. So, for instance, if estuarine wetlands and marine kelp beds were the potentially Orange Counties, TX affected resources at a site, they would be listed in this table as "migratory birds" and "fisheries," respectively. #47 - New rip-rap after restoration. 96 Barge Nestucca Oil Spill Grays Harbor, WA fisheries, migratory birds, T&E Since NPS does not manage specifically for these four resources, the potentially affected resource (e.g. seagrass) species, Olympic National Marine was put in parentheneses after the National Park unit name. Sanctuary, Olympic National Park, Copalis NWR, Dungeness NWR, Flattery Rocks NWR, Protection ⁸ Year when settlement for restoration costs occurred. This could be several years after the incident occurred and/or Island NWR, Quillayute Needles Alaska several years before actual restoration work begins. 97 Commencement Bay CERCLA State, Tribes fisheries, migratory birds, T&E Tacoma, WA ⁹ This incident precipitated the passage of OPA. CERCLA State, Tribes fisheries, migratory birds, T&E 98 Elliott Bay / Duwamish King County, WA ¹⁰ Technically, recreational use is not a resource, but rather a service provided by resources. State, Tribe | fisheries, migratory birds, T&E 99 | *Tenyo Maru* Oil Spill offshore Cape Flattery, WA State, Tribes | fisheries, migratory birds, T&E 100 Texaco Anacortes Anacortes, WA 8 September 2004 American Samoa Pacific Ocean CERCLA State, Tribe fisheries, migratory birds, T&E 1998 101 | Tulalip Landfill Marysville, WA 3 4 National Oceanic and Atmospheric Administration, National Park Service, U.S. Geological Kent. WA Survey, U.S. Fish and Wildlife Service and Environmental Systems Research Institute CERCLA 1988 102 Western Processing State fisheries 103 Fox River - Green Bay Lower Fox River, Green CERCLA State, Tribes | fisheries, migratory birds, Bay, WI recreational use